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REMARKS

Independent claim 1 and dependent claim 7 have been amended in minor, formal respects to more clearly claim the subject matter that the applicants regard as their invention. Additionally, new claim 12 has been added to further claim the present invention.

Regarding the Information Disclosure Statement, the allegedly missing references were included with the Statement when filed. Attached is a photocopy of the receipt postcard that accompanied the initial filing. It states that two foreign references were included as a part of that Statement, and it contains the Patent and Trademark Office receipt stamp that acknowledges receipt by the Office of all the documents that are listed on the postcard receipt. Because the Office has apparently lost the two foreign references, an additional copy of each is attached to and forms a part of this response.

Also attached to this response is a corrected Abstract of the Disclosure to correct the spelling error noted by the examiner.

The claims were rejected under 35 U.S.C. § 101 on the ground the specification does not disclose a utility for the claimed invention. The examiner referred to the compound $Mo(Si_{1-y} Al_y)_2$ and the value for y. In that regard, claim 1 has been amended to delete the reference to that compound, which is disclosed in the specification as a compound that results from the "standard procedure of manufacture" of a heating element (see specification, ¶ 0011), which is a procedure that is to be contrasted with the method of the present invention. Moreover, the specification clearly identifies the utility of the invention in paragraphs 0017 and

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0024 wherein it is disclosed that the invention provides on the surface of a molybdenum-silicide-type heating element an aluminum oxide coating that does not peel or flake off after cyclic operation of the heating element between room temperature and 1500°C. And that beneficial result is obtained by providing components having low contaminant consistencies (specification, ¶ 0017) and by providing input components that together have a degree of purity of at least 98% (specification, ¶ 0021). Regarding utility, "An invention has a well-established utility if (i) a person of ordinary skill in the art would immediately appreciate why the invention is useful based on the characteristics of the invention (e.g., properties or applications of a product or process), and (ii) the utility is specific, substantial, and credible." MPEP, §2107. The specification in this case satisfies those requirements in that it clearly discloses the utility of the invention, and therefore the rejection based upon an alleged absence of a disclosure of utility is requested to be withdrawn.

The claims were also rejected under 35 U.S.C. § 112, first paragraph, on the same utility-lacking ground and the how-to-use requirement. In that regard, "If a statement of utility in the specification contains within it a connotation of how to use, and/or the art recognizes that standard modes of administration are known and contemplated, 35 USC 112 is satisfied." MPEP, §2164.01(c). How the invention is used is disclosed in the present specification, and that disclosure together with the prior art disclosures relating to the making of heating elements are sufficient to satisfy the how-to-use requirement, and therefore that basis of rejection should also be withdrawn.

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The claims were also rejected under 35 U.S.C. § 112, second paragraph, as indefinite. Each of the instances of alleged indefiniteness noted by the examiner has been overcome by the amendments that have been made to claim 1 as reflected in the amended claims listed above.

The claims were also rejected under 35 U.S.C. § 102(e) as anticipated by the Sundberg '095 reference. That rejection is based upon the conclusion that included within the disclosure, the reference discloses that: "the silicon and molybdenum compound mixture ... is mixed with an aluminum compound including at least one of Al_2O_3 or $\text{Al}(\text{OH})_3$ with mixture components having at least 98% degree of purity." It should be noted that it is that feature that sets the present invention apart from the prior art. More specifically, the present specification clearly states in ¶ 0012 that, as to the prior art: "The problem is that the oxide that forms on the surface of the element, namely Al_2O_3 , sometimes peels away or flakes off, i.e., loosens from the surface of the element, in cyclic operation." And it goes on in ¶ 0017 to note that cyclic operation is thermal cycling, and that: "It has been found, surprisingly, that there is obtained at low contaminant consistencies an oxide which does not peel after cyclic operation between room temperature and high temperatures, for instance 1500°C." It then identifies in ¶ 0021 the necessary contaminant presence to achieve the surprising beneficial results from practicing the invention as: "According to the invention the input components together have a degree of purity of at least 98%."

The reference relied upon does not disclose any particular degree of purity of the compounds therein disclosed. In fact, that reference does not

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recognize or acknowledge the existence of the aluminum oxide layer flaking or peeling problem to which the present invention is addressed. And a search of that disclosure reveals that in addition to not referring to flaking or peeling, it does not contain the words "degree," "purity," or "98%." It does use the term "pure," but only in the context of the hydrogen gas purity, or molybdenum metal or tungsten metal purity, or pure alumina. (See Sundberg et al '095, col. 1, line 50; col. 2, line 2; and col. 3, line 56) But none of those uses of "pure" relates to the purity of the silicon compound, the molybdenum compound, and the aluminum compound that make up the input components or the mixture components in the present invention. Because of the absence from the reference of any discussion either of the problem solved by the present invention or of the purity of the compounds from which the claimed heating element is produced, it cannot be said that the reference anticipates the invention as it is claimed in claim 1. And in addition to not anticipating the claimed invention, that reference also does not even remotely suggest it.

The remaining claims each depend from claim 1, either directly or indirectly, and therefore the same distinctions as are noted above in connection with claim 1 apply with equal effect to the remaining claims.

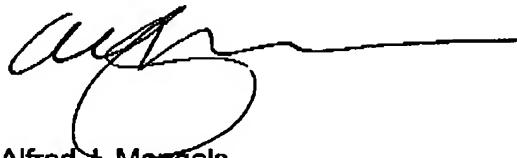
Based upon the foregoing remarks, the claims as they now stand in the present application are believed clearly to be in allowable form in that they patentably distinguish over the disclosure contained in the reference that was cited and relied upon by the examiner. Additionally, the claims comply with the requirements of 35 U.S.C. §§ 101 and 112 in that the specification discloses the

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utility of the claimed invention and the claims satisfy the use and definiteness requirements. Consequently, reconsideration and reexamination of the application is respectfully requested with a view toward the issuance of an early Notice of Allowance.

The examiner is cordially invited to telephone the undersigned attorney if this amendment raises any questions, so that any such question can be quickly resolved in order that the present application can proceed toward allowance.

Respectfully submitted,



September 28, 2005

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